

An Evaluation of Public Library Websites: Describing Children's Services in Japan

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ABSTRACT. This study is the first to investigate the amount and type of information about children's services described in Japanese public library websites, with particular reference to the Web pages intended for children, and the extent to which usability is taken into account in the design of these websites. Further, the study analyzes what kinds of content are more prevalent in children's services as described in Japanese public library websites in comparison with the actual delivery of these services. Finally, the study considers the usability of children's Web pages from the perspectives of how easy they are to read and understand.

KEYWORDS. Children's services, Japanese public library Websites, Web pages for children, usability of children's Web pages, survey research

INTRODUCTION

Due to advances in computer network technology, the World Wide Web (the Web) has become an invaluable medium for information

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dissemination. New opportunities are provided by publishing on the Internet, enabling libraries to provide information not only on obvious library policies but also to meet expected user demands.

Library websites play an important role in guiding users through library services, particularly from the aspect of public relations. Studies indicate that easy-to-understand websites are effective in attracting both new and infrequent users as well as frequent users. Therefore, it is desirable to effectively package information and customize it to meet the differing requirements of a variety of users. Children's services, in particular, require special attention because they aid in the formation of life-long learning and library usage habits in novices. They also play an important role in preparing a good reading environment for children and improving their information literacy.

Creating attractive and successful websites that serve children, therefore, involves appropriate content and usability. Usability associated with Web pages shows the following features: Users are able to immediately understand what kind of information is provided; the information provided is easy to read and understand; and users are easily able to arrive at the information they require.

This study is the first to investigate the amount and type of information as regards children's services that is described in Japanese public library websites and the extent to which usability is taken into account in the design of these websites.

LITERATURE REVIEW

Some previous studies have explored the types of information or content described in library websites.

In 1996, Clyde surveyed the contents of 50 public library websites from 10 countries and 50 school library websites from 9 countries. The number of public library websites describing each type of content was found to be as follows: Name of the library (49 out of 50), Information regarding the library (45), Links to selected resources on the Internet (38), Interactive e-mail contact address (36), Address of the library (33), Links to resources on the local area/region (31), and Date of the last update for the page (25).

In the case of school libraries, these figures were as follows: Name of school and library (41 out of 50), Links to selected resources on the Internet (31), Information regarding the school library (29), and Interactive e-mail contact address (28). Moreover, this information was provided in more than 50% of the websites.

To obtain these totals, Clyde (1996, 2002) conducted a content analysis of library websites from a total of 13 different countries, and then used the same tools on the remainder of the sites in 1999 and 2002. The major change that occurred between 1996 and 2002 was that school library websites provided access to electronic resources such as online information services, the catalogs of other libraries, and the school library's own catalog (Clyde, 2002).

Baumbach (2005) randomly selected and analyzed the features of 100 U.S. school library websites. She found that school library Web pages exhibited a wide range of goals and purposes, with little consensus on the content or organization of the pages. In addition to reporting this variation, she proposed that the schools include some essential website elements such as a description of the website's basic features, a mission statement, and a mention of the resources that support the library's mission (Baumbach, 2005).

Jurkowski (2005) analyzed the features that were most prevalent in school library websites through a Web-based survey consisting of 54 questions that was administered to 278 school librarians. The relatively common features were found to be as follows: e-mail address (90%), an uncomplicated list of links (82%), webmaster contact information (79%), and search engines (78%). In addition, this study identified two of the most common features that the librarians wanted but did not already have—Web-accessible online public access catalogs (OPACs) and a larger collection of current links (Jurkowski, 2005).

Kanazawa et al. (2001) discussed the functions that were provided in the school library websites in order for the libraries to carry out their social role. These researchers proposed the Core Information Reference Research Instruction (CIRRI) Contents Model that included the essential contents for school library websites. These include information on functions such as publicity, reference service, instruction support, research support and unification. That material can be arrayed into five elements: 1) Core Contents, 2) Information Tool Contents, 3) Reference Tool

Contents, 4) Research Tool Contents, and 5) Instructional Tool Contents.

Furthermore, Kanazawa et al. undertook a sample of U.S. school library websites, comparing their contents with the CIRRI Contents Model. The results of the investigation indicated that the school library websites could be divided into six types of websites based on how different they were from the CIRRI Contents Model. The six types of websites were: 1) CIRRI Contents Model Type, 2) Outside Information Resources-Oriented Type, 3) Public Relations-Oriented Type, 4) Research Support-Oriented Type, 5) Instruction Support-Oriented Type, and 6) Independent User Training Type. However, the CIRRI Contents Model Type, which contains all five types of contents (Core Contents, Information Tool Contents, Reference Tool Contents, Research Tool Contents, and Instructional Tool Contents), was found to be predominant among the above six types. Kanazawa et al. studied U.S. school library websites because Japan had few such sites in 2001.

As regards the library websites in Japan, Hokkai et al. (2000) studied Japanese public library websites. They indicated that as information providers, it was important for each library to describe the nature of its library services by using the Internet. Subsequently, they also investigated the types of library services that were provided through Japanese public library websites. The results revealed the need for library services provided through websites to be improved, for instance, the provision of multicultural and e-mail services for reference or reservation. In the case of public libraries, there are various types of users: for instance, children, young adults, adults, old persons, and disabled persons. Therefore, there are different information requirements corresponding to each type of user. Disseminating information to meet the needs of each user type is essential for public library websites to improve their library services. The investigation by Hokkai et al., however, did not survey the actual contents for each type of user, such as children and young adults (Hokkai et al., 2000).

There already have been some attempts to identify problems pertaining to the usability of websites. On the basis of these attempts, it is generally recognized that the use of a checklist is likely to be a relatively easy method of identifying problems. With this in mind, Nielsen et al. (2005) published "Usability of Websites for Children."

Nielson concludes that along with describing beneficial information, it is essential for webmasters to consider the usability of websites for users.

METHODOLOGY

This present investigation retrieved Japanese public libraries having their own websites through Yahoo! JAPAN's category of "Libraries-Public Libraries." Consequently, 50 websites belonging to prefectural libraries were confirmed in March 2005, and all of them were included in this investigation.

In the case of municipal libraries, 1,272 websites were retrieved in February 2005. Every municipal library necessarily belongs to one of the 47 prefectures in Japan. Therefore, the list of those 1,272 websites was stratified on the basis of their prefecture, yielding 47 strata. Six hundred and fifty-one websites—approximately half of all the 1,272 websites—were independently selected using stratified random sampling from each stratum. In general, the size of the sample in each stratum is taken in proportion to the size of the stratum. This technique is called proportional allocation, which was adopted in this investigation. Moreover, the investigation was executed in 2005; Table 1 shows the object of this investigation.

Youth services librarianship, which encompasses all library services meant for the children and young adults in school and public libraries, is evidenced by the fulfillment of five conditions: 1) specialized library collections, 2) specialized library space, 3) specialized personnel (youth services librarians), 4) specialized programs and services designed for youth, and 5) the library's description of a network of child welfare and social service agencies (Jenkins, 2000).

TABLE 1. Object of Investigation

Type of Public Library	Prefectural Library	Municipal Library				Total
		City Library	Ward Library	Town Library	Village Library	
Number	50	394	12	229	16	701
%	7.1%	56.2%	1.7%	32.7%	2.3%	100.0%

In accordance with the above framework, the items of this investigation have been appropriately considered with respect to the description of children's services in the public library websites. However, the network of child welfare and social service agencies—the fifth condition for youth services librarianship—was excluded from these items because this investigation placed a special emphasis on the description of children's services within the library.

In addition, this investigation adequately discussed and proposed the items with reference to the guidelines regarding the usability of websites for children that were formulated by Jakob Nielsen et al. (2005).

Considering 55 children of varying ages (grades 1–5) as users, Nielsen et al. (2005) tested 24 websites designed for children. Child-specific sites such as Alf, MaMaMedia, and Sesame Street directly target children; however, the researchers also tested several child-oriented sub-sites produced by mainstream companies, such as ABC News for Kids. Moreover, they tested three mainstream websites designed for adult users (Amazon, Yahoo!, and Weather.com) with older children (grades 4–5). Based on the usability testing implemented with the 55 children, Nielsen et al. (2005) presented 70 design guidelines for children's websites.

From these 70 design guidelines, this study has selected those items that are required for public or official websites (excluding the items on publicity or games in entertainment) and which are effective in even smaller websites (including the items that are desirable for novices to the website).

In specific terms, items such as font size, font color, and the background of letters were chosen with respect to the "Text". "Navigation and Search" involved the feature wherein users were shown where they were in the website structure. The items applicable to the "Help" feature included the items "general words are used in the title label," "technical terms on library science are not used in the title label," and "technical computer terms are not used in the text." Although items such as "text is described using only hiragana (the Japanese cursive syllabary)" were not included in the 70 design guidelines, they were selected in Help, as depicted in Table 10, because this study targets Japanese public library websites for Japanese children. A syllabary is a set of written symbols that represent (or approximate) syllables, which make up words. A symbol in a syllabary typically represents an optional consonant

sound followed by a vowel sound (Wikipedia at <http://en.wikipedia.org/wiki/Syllabary>).

RESULTS AND DISCUSSION

Descriptions of Children's Services in Public Library Websites

This investigation analyzed the manner in which the information on children's services is described in the websites of both prefectural and municipal libraries with regard to their specialized collection, space, personnel, services, and programs for children. In Japan, prefectural libraries are responsible for supporting municipal libraries in the entire prefecture.

In order to demonstrate how the present condition of children's services in Japan are reflected in these websites, the results of this investigation (Web Investigation, in short) are compared with those of a previous investigation on the same topic, which was conducted by the Japan Library Association (JLA; which will have the short title, Present Condition Investigation), because it is the latest nationwide investigation. In the Present Condition Investigation (JLA, 2004), the survey questionnaires were mailed to the directors of all the 64 prefectural and 2,668 municipal libraries in Japan in April 2003. Eventually, all the 64 prefectural libraries (the response rate was 100%) and 2,575 municipal libraries (the response rate was 96.5%) returned filled out questionnaires (JLA, 2004).

Since there is a time lag between the Present Condition Investigation (implemented in 2003) and the Web Investigation (implemented in 2005), it is necessary to conduct a careful comparison between the present study's results and those of the previous study.

Specialized Collections for Children's Services

Table 2 depicts the contents describing the specialized collections for children's services in the prefectural libraries with respect to the Present Condition Investigation and the Web Investigation. The websites of 20 libraries (40%) describe the types of materials and those of 17 libraries (34%) describe the number of materials. In contrast, 58 libraries (90.6%) have a specialized collection for children's services.

TABLE 2. Description of Specialized Collection for Children's Services (Prefectural Library)

Contents	Present Condition Investigation	Web Investigation
Types of Materials	58 (90.6%)	20 (40.0%)
Number of Materials	58 (90.6%)	17 (34.0%)
Book List for Children	—	32 (64.0%)
Total	64	50

A book list for children is described in the websites of 32 libraries (64%). However, there is no corresponding item in the Present Condition Investigation.

The percentage of each of the contents as found in the Web Investigation is lower than that found in the Present Condition Investigation, as shown in Table 2. This comparison suggests that the contents of prefectural library websites regarding their specialized collections for children's services do not necessarily reflect the existing condition of children's services.

Table 3 shows the contents describing the specialized collections for children's services in municipal libraries as found in the Present Condition Investigation and Web Investigation. The websites of 235 libraries (36.1%) describe the categories of materials, while only 96 libraries (14.7%) indicate the number of materials. However, 2,420 libraries (94.0%) responded that they had a specialized collection for children's services.

Similar to the prefectural library websites, the contents of municipal library websites regarding their specialized collections for children's services do not necessarily reflect the existing conditions.

TABLE 3. Description of Specialized Collection for Children's Services (Municipal Library)

Contents	Present Condition Investigation	Web Investigation
Types of Materials	2420 (94.0%)	235 (36.1%)
Number of Materials	2420 (94.0%)	96 (14.7%)
Book List for Children	1271 (49.4%)	232 (35.6%)
Total	2575	651

However, prefectural libraries are generally run on a larger scale than municipal libraries. That is because prefectural libraries are responsible for supporting municipal libraries (city, ward, town, or village libraries) in the entire prefecture. Moreover, the results of the Present Condition Investigation indicate that the average number of Japanese materials for children's services in municipal libraries (28,291 books) is smaller than this figure for prefectural libraries (57,411 books; JLA, 2004). The percentage of municipal libraries (14.7%) that describe the number of Japanese materials for children in their websites is found to be lower than that of prefectural libraries (34%).

In addition, a book list for children is indicated in the websites of 232 municipal libraries (35.6%). According to the results of the Present Condition Investigation, 1,271 municipal libraries (49.4%) supply a book list for children. The difference between these percentages is smaller than the differences between the other contents. As regards the book list for children, the contents of municipal library websites reasonably reflect the present condition of children's services. In other words, municipal libraries are generally closer to citizens and contribute to children's reading by supplying a book list for children, even though the average number of materials for children's services in municipal libraries is smaller than that in prefectural libraries.

Specialized Space and Personnel for Children's Services

Table 4 depicts information regarding the contents on specialized space and personnel for children's services in prefectural libraries as found in the Present Condition Investigation and Web Investigation.

TABLE 4. Description of Specialized Space and Personnel for Children's Services (Prefectural Library)

Contents	Present Condition Investigation	Web Investigation
Floor Map	51 (79.7%)	29 (58.0%)
Counter for Children's Services	39 (60.9%)	6 (12.0%)
Personnel for Children's Services	26 (40.6%)	4 (8.0%)
Total	64	50

Although 51 libraries (79.7%) have a specialized space for children, the floor map for children's services is described in the websites of 29 libraries (58.0%). In comparison with other contents from the Web Investigation mentioned in Table 4, the percentage of floor maps is found to be the highest. However, this description is not necessarily sufficient to inform library users of the exact place for children's services. Information as regards the counter for children's services is described in the websites of only 6 libraries (12.0%), while 39 libraries (60.9%) have specialized counters. In addition, the websites of only 4 libraries (8%) contain information regarding a children's librarian, while 26 libraries (40.6%) have more than one children's librarian.

Table 5 describes the contents regarding the specialized space and personnel for children's services in municipal libraries as revealed in the Present Condition Investigation and Web Investigation. The percentages of description regarding a floor map (28.9%), counter (3.8%), and personnel (1.4%) in the Web Investigation are considerably lower than those in the responses to the Present Condition Investigation—floor map (87.2%), counter (15%) and personnel (14.3%). With respect to floor maps, the difference between the Web Investigation (28.9%) and the Present Condition Investigation (87.2%) is particularly remarkable.

According to the Present Condition Investigation, the average floor space for children's services in prefectural libraries is 237.9 m², while that in municipal libraries is 158.2 m² (JLA, 2004). It is suggested that the difference of scale with regard to floor space between the prefectural and municipal libraries might reflect the difference between their respective websites' description of floor maps.

TABLE 5. Description of Specialized Space and Personnel for Children's Services (Municipal Library)

Contents	Present Condition Investigation	Web Investigation
Floor Map	2245 (87.2%)	188 (28.9%)
Counter for Children's Services	386 (15.0%)	25 (3.8%)
Personnel for Children's Services	369 (14.3%)	9 (1.4%)
Total	2575	651

Specialized Services and Programs Designed for Children

Table 6 describes the contents regarding the specialized services designed for children in prefectural libraries according to the Present Condition Investigation and the Web Investigation.

Information regarding services designed for all children is described in the websites of 22 libraries (44%), while 52 libraries (81.3%) perform children's services for all children. The percentages of descriptions of specialized services designed for children in the websites are, on the whole, lower than those in the responses to the Present Condition Investigation. For example, services designed for foreign children are described in the websites of only 2 libraries (4%), while 54 libraries (84.4%) collect children's books written in foreign languages. Moreover, services designed for disabled children are described in the websites of only 2 libraries (4%), whereas 21 libraries (32.8%) perform these services.

In contrast, the percentage of services provided by the mobile libraries as found in the Web Investigation (10%) is nearly equal to the corresponding percentage in the Present Condition Investigation (10.9%). The mobile library services primarily target the users who find it difficult to visit the nearest municipal libraries. For example, there may not be any public library in their town or village, or even if there is one, it may be too far away for little children to visit it. Such users require information regarding the time and place for the mobile library through websites rather than on a bulletin board in a library.

TABLE 6. Description of Specialized Services Designed for Children (Prefectural Library)

Contents	Present Condition Investigation	Web Investigation
Services Designed for All Children	52 (81.3%)	22 (44.0%)
Services Designed for Disabled Children	21 (32.8%)	2 (4.0%)
Services Designed for Foreign Children	54 (84.4%)	2 (4.0%)
Reference Services for Children	47 (73.4%)	10 (20.0%)
Explanation of Internet Use for Children	22 (34.4%)	4 (8.0%)
Mobile Library Services	7 (10.9%)	5 (10.0%)
Total	64	50

Therefore, websites containing information regarding mobile libraries are very important for library users with low mobility.

Table 7 shows the contents describing the specialized services designed for children in municipal libraries as revealed in the Present Condition Investigation and Web Investigation.

Similar to the tendency in prefectural libraries, the percentages of description regarding specialized services designed for children are lower in websites than those in the corresponding responses to the Present Condition Investigation. For example, the websites of only 27 libraries (4.1%) carry information regarding reference services for children, while these services are actually performed in 2,515 municipal libraries (97.7%). Children's librarians provide support for children and satisfy their requirements pertaining to studies or assignments. Furthermore, they assist children in improving their information literacy with the use of various reference tools such as the Internet and reference books. In addition, reference services for children are very important from the viewpoint of school education. In order to work in cooperation with the local school, library websites should describe exact information regarding reference services for children.

Besides reference services for children, it is essential for websites to explain Internet use for children in order to improve children's information literacy. Explanation regarding Internet use for children is found in the websites of only 5 libraries (0.8%), while 457 libraries (17.7%) offer Internet access for children.

TABLE 7. Description of Specialized Services Designed for Children (Municipal Library)

Contents	Present Condition Investigation	Web Investigation
Services Designed for All Children	2571 (99.8%)	324 (49.8%)
Services Designed for Disabled Children	423 (16.4%)	13 (2.0%)
Services Designed for Foreign Children	1528 (59.3%)	6 (0.9%)
Reference Services for Children	2515 (97.7%)	27 (4.1%)
Explanation of Internet Use for Children	457 (17.7%)	5 (0.8%)
Mobile Library Services	—	197 (30.3%)
Total	2575	651

Services designed for foreign children are described in the websites of only 6 libraries (0.9%), while 1,528 libraries (59.3%) collect children's books written in foreign languages.

Hence, it is necessary to further improve the contents regarding specialized services designed for children so as to reflect the present condition of these services.

Table 8 indicates the contents regarding the specialized programs designed for children in prefectural libraries as found in the Present Condition Investigation and Web Investigation.

Information on story hours, including booktalks, is described in the websites of 34 libraries (68%), while 37 libraries (57.8%) periodically hold story hours. The prefectural libraries having their own websites tend to provide information on story hours more frequently than those libraries that do not have their own websites. It is thought that a description of the story hour in the websites could be effective in increasing the number of library visitors, as a part of public relations. Moreover, information regarding other programs such as animation, science programs, reading programs, crafts, and library tours are not described in a practical manner. However, there are no categories that correspond to these contents in the Present Condition Investigation.

Table 9 shows the contents describing the specialized programs designed for children in municipal libraries with respect to the two above mentioned investigations.

The websites of 516 libraries (79.3%) include information on the story hour, while 2,248 libraries (87.3%) periodically hold it. The percentage of the description of a story hour in the websites reflects the percentage of the present condition of this feature. However, as regards booktalk, the percentage in the findings of the Web

TABLE 8. Description of Specialized Programs Designed for Children (Prefectural Library)

Contents	Present Condition Investigation	Web Investigation
Story Hour (Booktalk)	37 (57.8%)	34 (68.0%)
Animation, Science Programs, Reading Programs, Crafts	—	8 (16.0%)
Library Tour	—	3 (6.0%)
Total	64	50

TABLE 9. Description of Specialized Programs Designed for Children (Municipal Library)

Contents	Present Condition Investigation	Web Investigation
Story Hour	2248 (87.3%)	516 (79.3%)
Booktalk	183 (7.1%)	9 (1.4%)
Science Programs	29 (1.1%)	12 (1.8%)
Library Tour	2073 (80.5%)	16 (2.5%)
Total	2575	651

Investigation (1.4%) is significantly lower than that of the Present Condition Investigation (7.1%). It is thought that formal booktalk may be performed as a part of story hour, and detailed contents of the story hour may not necessarily be described in the websites. More detailed information regarding the story hour should be described in the websites in order to encourage the children and their parents to participate in it. With respect to science programs, the percentage in the Web Investigation (1.8%) reflects that in the Present Condition Investigation (1.1%).

In contrast, information regarding a library tour is described in the websites of only 16 libraries (2.5%), while 2,073 libraries (80.5%) hold such tours. A library tour is a good opportunity for participants to experience the atmosphere of the library and actual library services. Therefore, in addition to information on the time and date of the library tour, it is recommended that the impressions of the library as evinced by participants after a library tour be described in the websites, as a part of public relations.

The Usability of Web Pages for Children

From among the 701 libraries investigated in this study, 123 libraries (17.5%) have Web pages for children in their own websites.

The breakup of these 123 libraries is as follows: 24 prefectural libraries, 65 city libraries, 6 ward libraries, 26 town libraries, and 2 village libraries.

Table 10 indicates the results of the investigation regarding the usability of the Web pages designed for children. The term "True" in Table 10 implies that the children's Web page in the library website adopts the investigation item. In contrast, "Untrue" implies that the Web page does not adopt the investigation item. In this study, we

TABLE 10. Investigation Regarding the Usability of Web Pages for Children

Investigation Items	True	Untrue
(Text)		
Text fonts on screen are comparable in size to a minimum of 12-point print type.	43 (35.0%)	80 (65.0%)
Letters in the text are black.	55 (44.7%)	68 (55.3%)
Background of the letters is white.	50 (40.7%)	73 (59.3%)
Contrast between the letters and their background is easy to read.	108 (87.8%)	15 (12.2%)
Text is depicted on a solid background.	84 (68.3%)	39 (31.7%)
Blinking letters are not used in the text.	120 (97.6%)	3 (2.4%)
Animated text is not used.	112 (91.1%)	11 (8.9%)
When the content on a children's page is aimed at adults, a prominent title is used to inform users that this content is for adults.	* 15 (37.5%)	25 (62.5%)
If children reach a section for adults, a straightforward and easy way is presented to return to the children's section.	* 86 (78.9%)	23 (21.1%)
(Multimedia)		
Flash is not used in the Web pages; otherwise both a Flash and a non-Flash entrance to the Web page are provided.	120 (97.6%)	3 (2.4%)
(Navigation and Search)		
Users can see where they are in the website structure.	115 (93.5%)	8 (6.5%)
(Graphical User Interface)		
The top page gives an overview of the website without creating any false expectations.	123 (100.0%)	0 (0.0%)
The distinction between clickable and non-clickable items is clearly indicated.	90 (73.2%)	33 (26.8%)
If a link leads users to a different website, the possibility is clearly explained in advance.	* 33 (94.3%)	2 (5.7%)
(Help)		
General words are used in the title label.	121 (98.4%)	2 (1.6%)
Technical terms on library science are not used in the title label.	116 (94.3%)	7 (5.7%)
Technical computer terms are not used in the text.	93 (75.6%)	30 (24.4%)
Text is described using only hiragana (the Japanese cursive syllabary).	7 (5.7%)	116 (94.3%)
When "kanji" (Chinese characters) are used in the text, their pronunciation is shown in kana.	9 (7.3%)	114 (92.7%)

*Only the applicable pages have been considered as objects for this study.

have evaluated every Web page as true or untrue with respect to each investigation item. For 13 of the 19 items, the percentage of true is higher than that of untrue. In this section, each item from Table 10 will be considered in detail.

Text

Web pages for children in 80 library websites (65.0%) are untrue about "the font size on screen (a minimum of 12-point print type)." It is difficult for children between grades 1–3 (novices in Web page use) to read Web pages that are written in font sizes that are considerably smaller than those in picture books or children's books. Therefore, from the viewpoint of being easy to read, it is necessary to improve the present condition of the font size on screen.

In 68 library websites (55.3%), the Web pages are untrue with regard to the item "letters in the text are black," and those in 73 libraries (59.3%) are untrue about "background of the letters is white." However, children's Web pages in 108 library websites (87.8%) are true with regard to the item "contrast between the letters and their background is easy to read." There is a possibility that the estimate regarding ease of reading might include somewhat subjective views. However, on most Web pages, it is found that other than black, letters in the text are depicted in brown or dark gray, which are very similar to black. Moreover, other than the use of white itself, pale colors that are very similar to white are used as a background for the letters. It is generally recognized that such a contrast between the text and the background might promote the effective and easy perusal of Web pages. In general, color combination of the letters in the text and the background of the letters should be selected while keeping in mind the parameters that make Web pages easy for children to read.

In addition, children's Web pages in 84 library websites (68.3%) are true with regard to "text is depicted on a solid background," and those in 120 library websites (97.6%) are true about "blinking letters are not used in the text." Also, 112 library websites (91.1%) are true as regards "animated text is not used." The percentages of true are higher than those of untrue in these items. Therefore, it is suggested that, even though most children like animation, Web page designers are likely to consider the user's purpose in reading the Web page text.

Children's Web pages in 25 library websites (62.5%) are untrue as regards "distinguishing and isolating content for adults." However, this item is applicable to only 40 library websites. Therefore, from the present results, it is difficult to determine whether usability for children is taken into consideration or not.

Moreover, children's Web pages in 86 library websites (78.9%) are true as regards "presenting a straightforward and easy way to return to the children's section." Library websites have both a section for adults and a children's section. Some confusion might occur if children stumble onto one of the adult pages. Therefore, it is necessary to provide an easy explanation for children which will help them understand how to return to the children's section.

Multimedia

Children's Web pages in 120 library websites (97.6%) are true about "avoiding automatic Flash replays" or "providing both a Flash and a non-Flash entrance to the Web pages." Users prefer not to spend their time waiting for a Flash interface that they have already seen. In addition, providing users with the option of a non-Flash page in every situation can help them simplify their searches.

Navigation and Search

Children's Web pages in 115 library websites (93.5%) are true as regards "showing users where they are in the website structure." This promotes an easy understanding of how to move around within the site and also contributes to its usability for children.

Graphical User Interface

Children's first impression of a website is decisive to the continuance of their stay on it. Therefore, the top page should give an overview of the website without creating any false expectations (Nielsen et al., 2005). As indicated in Table 10, all the children's Web pages in the 123 library websites (100%) are true as regards this item.

Children's websites often contain a variety of graphical elements, such as small illustrated icons and tools, medium-sized illustrations and logos, and full-sized pictures. Many children encounter

difficulties in distinguishing between active elements (those that can be clicked) and passive images (Nielsen et al., 2005). The distinction between clickable and non-clickable items should be clearly indicated for children. Children's Web pages in 90 library websites (73.2%) are true with regard to this item.

Furthermore, if a link leads users to a different website, this possibility should be clearly explained in advance, from the viewpoint of graphical user interface. Children's Web pages in 33 library websites (94.3%) are true as regards this item; however, this item is applicable to only 35 library websites.

It is suggested that usability for children be focused on from the viewpoint of graphical user interface.

Help

Children are unfamiliar with technical terms pertaining to computer and library science. For example, they cannot understand software terms, names of browsers and plug-ins, speeds of connections, and types of devices (Nielsen et al., 2005). Therefore, it is necessary for children's pages to use general words and terms that non-technical users can understand.

Children's Web pages in 121 library websites (98.4%) are true as regards "general words are used in the title label." Those in 116 library websites (94.3%) are true regarding "technical terms on library science are not used in the title label." Those in 93 library websites (75.6%) are true regarding "technical terms associated with computers are not used in the text." With respect to technical terms, usability for children is considerably taken into account.

However, children's Web pages in 116 library websites (94.3%) are untrue as regards "text is described using only 'hiragana' (the Japanese cursive syllabary)." Those in 114 library websites (92.7%) are untrue as regards "when 'kanji' (Chinese characters) are used in the text, their pronunciation is shown in 'kana'." These items are relevant as problems peculiar to Japanese. Although children (particularly younger children) find it difficult to understand the meaning and learn the pronunciation of kanji, hiragana or kana are easy for them to read and understand. With regard to these problems, much consideration is necessary to improve the usability of children's Web pages in order to render them easy to read and understand.

CONCLUSION

The contents regarding children's services and the usability of children's Web pages in Japanese public library websites can be described as follows.

As regards information on the story hour, the percentage of description of the story hour in the websites considerably reflects that of the present condition of this feature in both prefectural and municipal libraries. Moreover, with respect to the mobile library services, the percentage of their description in the websites almost reflects that of the present condition in mobile prefectural libraries.

In contrast, when compared to the present conditions of children's services, library websites appear to provide insufficient information about library collections, personnel, specialized services such as reference services and multicultural services for children, and specialized programs such as library tours. It is suggested that with respect to children's services, websites may not be effectively used as a means to perform public relations.

It appears that usability for children is taken into account with respect to presenting matter that is easy to read and understand, and ease of navigation is also promoted in children's Web pages.

The problems pertaining to children's services that need to be resolved are as follows.

It is important for children's services to describe the present condition of their specialized collections, specialized space and personnel, specialized services, and programs in the websites, so that users can accurately understand the children's services. In addition, it is desirable for library websites to provide not only frequent but also infrequent library users with attractive contents, thus prompting them to visit the library.

It is necessary for the creators of children's Web pages to consider each developmental stage of a child—from the lower to the upper grades. Particularly for children in the lower grades, the size of the text fonts on screen should be comparable to that in picture books or children's books. Moreover, the problems peculiar to Japanese should be solved by replacing kanji with hiragana in cases where kanji is used in the text and is difficult to understand, while taking into account the children's developmental stage.

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Received: 09/07

Accepted: 10/07

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